TOSHIBA

DICOM CONFORMANCE STATEMENT
FOR
TOSHIBA DIGITAL RADIOGRAPHY SYSTEM
MODEL ADR-1000A /R2
(MIIXR0003EAB)

TOSHIBA CORPORATION

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Table of Contents

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1. Introduction

This document is a DICOM Conformance Statement for Toshiba's Digital Radiography Systems. It is intended to provide the reader with the knowledge of how to integrate this product within a DICOM compliant hospital network. It details the DICOM Service Classes, Information Objects, and Communication Protocols which are supported by this product.

If the reader is unfamiliar with DICOM, it is recommended that they read the DICOM Specification (referenced below) prior to reading this conformance statement. Also note that this document is formatted according to the DICOM Specification, Part 2: Conformance.

1.1 References

- ACR-NEMA Digital Imaging and Communications in Medicine, DICOM V3.0.

1.2 Definitions

- **Association Establishment** - An Association Establishment is the first phase of communication between two DICOM Application Entities. The AEs use the Association Establishment to negotiate how data will be encoded and the type of data to be exchanged.
- **Called Application Entity Title** - The Called AE Title defines the intended receiver of an Association.
- **Calling Application Entity Title** - The Calling AE Title defines the requestor of an Association.
- **DICOM Message Service Element (DIMSE)** - A DIMSE defines the services and protocols utilized by an Application Entity to exchange messages.
- **Information Object Definition (IOD)** - An IOD is a data model which is an abstraction of real-world information. This data model defines the nature and attributes relevant to the class of real-world objects represented.
- **Service Class Provider (SCP)** - A Service Class Provider plays the "server" role to perform operations and invoke notifications during an Association. An example of a Storage Service Class Provider would be an image storage device. In this case, the image storage device is storing the image that was sent by a Service Class User.
- **Service Class User (SCU)** - A Service Class User plays the "client" role to invoke operations and perform notifications during an Association. An example of a Storage Service Class User would be an image acquisition device. In this case, the image acquisition device will create and send a DICOM image by requesting that a Service Class Provider store that image.
- **Service/Object Pair (SOP) Class** - A SOP Class is defined by the union of an Information Object Definition and a set of DIMSE Services. A DICOM Application Entity may support one or more SOP Classes. Each SOP Class is uniquely identified by a SOP Class UID.
- **SOP Instance** - A specific occurrence of a Information Object.
- **Transfer Syntax** - The Transfer Syntax is a set of encoding rules that allow DICOM Application Entities to negotiate the encoding techniques (e.g. data element structure, byte ordering, compression) they are able to support. The Transfer Syntax is negotiated during Association Negotiation.
- **Unique Identifier (UID)** - A Unique Identifier is a globally unique, ISO compliant, ASCII-numeric string. It guarantees uniqueness across multiple countries, sites, vendors and equipment.

1.3 Acronyms, Abbreviations and Symbols

- ACC American College of Cardiology
- ACR American College of Radiology
- ASCII American Standard Code for Information Interchange
- AE Application Entity
- ANSI American National Standards Institute
- CEN TC251 Comite Europeen de Normalisation - Technical Committee 251 - Medical Informatics
- DICOM Digital Imaging and Communications in Medicine
- DIMSE DICOM Message Service Element
- DIMSE-C DICOM Message Service Element - Composite
- DIMSE-N DICOM Message Service Element - Normalized
- HIS Hospital Information System
- HL7 Health Level 7
- IE Information Entity
- IOD Information Object Definition
- ISO International Standards Organization
- JIRA Japan Industries Association of Radiological Systems
- MPPS Modality Performed Procedure Step
- MWM Modality Worklist Management
- NEMA National Electrical Manufacturers Association
- OSI Open Systems Interconnection
- PDU Protocol Data Unit
- RIS Radiology Information System
- SCP Service Class Provider
- SCU Service Class User
- SOP Service-Object Pair
- TCP/IP Transmission Control Protocol/Internet Protocol
- UID Unique Identifier

2. Implementation Model

2.1 Application Data Flow Diagram

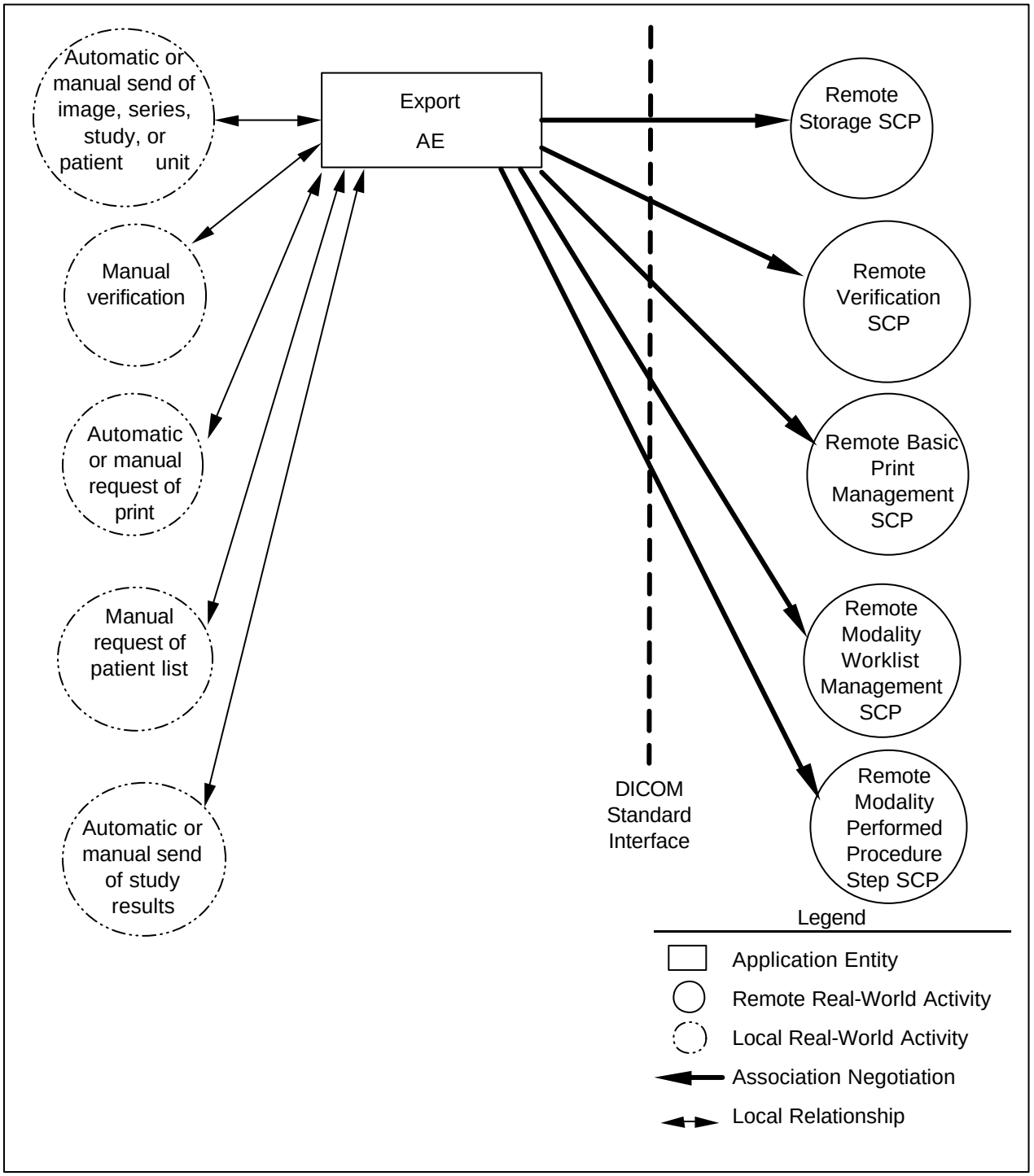

Figure 1

2.2 Functional Definitions of AE's

2.2.1 Export AE

Export AE is used to transmit images to a remote DICOM device. It therefore performs the following tasks:

- Builds DICOM XA/RF/SC Information Objects
- Establishes DICOM Association with a remote DICOM device
- Performs storage of DICOM XA/RF/SC Information Objects to a remote DICOM device

Export AE is used to verify that a remote DICOM device is active on the network. It therefore performs the following tasks:

- Establishes DICOM Association with a remote DICOM device
- Performs verification of a remote DICOM device's presence on network

Export AE is used to transmit request for Print images to a remote DICOM device. It therefore performs the following tasks:

- Builds DICOM Basic Grayscale Print Objects
- Establishes DICOM Association with a remote DICOM device
- Performs transmit of DICOM Basic Grayscale Print Objects to a remote DICOM device

Export AE is used to transmit request for patient list to a remote DICOM device and to retrieve patient list with Procedure Step. It therefore performs the following tasks:

- Establishes DICOM Association with a remote DICOM device
- Performs request of DICOM Modality Worklist Objects to a remote DICOM device
- Retrieves patient list with Scheduled Procedure Step Information from a remote DICOM device

Export AE is used to transmit request for a Modality Performed Procedure Step to a remote DICOM device. It therefore performs the following tasks each time of acquisition:

- Builds DICOM Modality Performed Procedure Step Objects
- Establishes DICOM Association with a remote DICOM device
- Performs transmit of DICOM Modality Performed Procedure Step Objects to a remote DICOM device

2.3 Sequencing of Real World Activities

2.3.1 Features

2.3.1.1 Automatic or manual send of image, series, study, or patient unit

- The current acquired images are sent automatically at the registration of new patient.
- Operator requests to send images after selecting the transferred images from the patient, study or series list or mini-image screen.
- When the image transfer fails, a request to retry sending is issued manually.
- The requests are placed on a queue, and are executed in the background.

2.3.1.2 Manual verification

- Toshiba Service Personnel can request verification manually on troubleshooting.

2.3.1.3 Automatic or manual request of print

- The number of frames in the rows and columns on each film can be specified as desired, up to a total maximum of 20 frames per film.
- The current acquired images are sent automatically at the registration of new patient.
- If an error occurs during printing, a request to retry printing is issued manually.
- Operator requests to print out images after selecting the transferred images from the patient, study or series list or mini-image screen.
- Print requests are placed on a queue, and are executed in the background.

2.3.1.4 Manual request of patient list

- The automatic request of Modality Worklist Management is performed periodically.
- Operator requests to transmit requiring patient list and retrieves it with Scheduled Procedure Step Information.

2.3.1.5 Automatic or manual send of study results

- The study results are sent automatically each time of acquisition.
- If an error occurs during sending, a request to retry Modality Performance Procedure Step is issued manually.
- The requests are placed on a queue, and are executed in the background.

2.3.2 Operation

2.3.2.1 Automatic or manual send of image, series, study, or patient unit

- The operation for manual image transferring is described below:
  STEP-1: Select the images, series, studies or the patient to be transferred.
  STEP-2: Select the destination of image transfer and request transfer.
  Regarding automatic send operation it is skipped over STEP-1 and STEP-2.

2.3.2.2 Manual verification

- The operation for manual verification is described below:
  STEP-1: Select the destination of verification and request verification.

2.3.2.3 Automatic or manual request of print

- The operation for manual print images is described below:
  STEP-1: Select the images, series, studies or the patient to be printed.
  STEP-2: Select the destination of print images and request print out.
  Regarding automatic print operation it is skipped over STEP-1 and STEP-2.

2.3.2.4 Manual request of patient list

- The operation for manual transmitting request for patient list is described below:
  STEP-1: Select the condition to be found out.
  STEP-2: Request to transmit request for patient list.
  STEP-3: Select patients to be registered.
  The patient's name, patient ID, patient's birth date, patient's sex, accession number and scheduled performing physicians name are used for the patient registration.

2.3.2.5 Automatic or manual send of study results

- The operation for automatic send of study results is described below:
  STEP-1: Send the study results information each time of acquisition.
  Regarding manual send of study results operation it is executed by pressing "retry" button when error is occurred.

3. AE Specifications

3.1 Export Specification

Export AE provides Standard Conformance to the following DICOM SOP Classes as an SCU:

Table 1

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1
RF Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Basic Grayscale Print Management	1.2.840.10008.5.1.1.9
Modality Worklist Information Model-FIND	1.2.840.10008.5.1.4.31
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3

The SOP Classes listed in **Table 2** indicate the SOP Classes regulated by the Basic Grayscale Print Management Meta SOP Class.

Table 2

SOP Class Name	SOP Class UID
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4
Printer SOP Class	1.2.840.10008.5.1.1.16

3.1.1 Export Association Establishment Policies

3.1.1.1 Export General

Export AE will utilize and understand the following Application Context Name:

Table 3

DICOM V3.0 Application Context	1.2.840.10008.3.1.1.1

Export AE supports a minimum PDU size of 16Kbytes and a maximum PDU size of 16Kbytes. The default value is set to 16Kbytes.

3.1.1.2 Export Number of Associations

Export AE can only establish one association at a time, independent of the number of destinations chosen.

3.1.1.3 Export Asynchronous Nature

Export AE allows a single outstanding operation on any association. Therefore, Export AE does not support asynchronous operations window negotiation, other than the default as specified by the DICOM specification.

3.1.1.4 Export Implementation Identifying Information

Export AE specify the following Implementation Identifying Information

- Implementation class UID 2.16.840.1.113669.632.3.1.1.2.7
- Implementation Version name ADR_2_9

3.1.2 Export Association Initiation by Real-World Activity

Export AE initiates an association when the following activity is chosen by the operator:

- "Automatic or manual send of image, series, study or patient unit"
  - Storage - Create and store an XA/RF/SC image to a remote DICOM device
- "Manual verification"
  - Verification - Verify that a remote DICOM device is present on the network

  Verification is initiated manually.
- "Automatic or manual request of print"
  - Print - Request print images to a remote DICOM device
- "Automatic or manual request of patient list"
  - MWM - Request query and retrieve patient list
- "Automatic or manual send of study results"
  - MPPS - Create and send MPPS to a remote DICOM device

3.1.2.1 Export Real-World Activity - Storage

3.1.2.1.1 Export Associated Real-World Activity - Storage

Storage is executed by the Digital Radiography System at the manual selection of the image transferred or at the registration of new patient automatically.

3.1.2.1.2 Export Proposed Presentation Contexts - Storage

Export AE proposes the following Presentation Contexts shown below:

Table 4

Presentation Context Table

Abstract Syntax		Transfer Syntax			Extended
Name	**UID**	**Name List**	**UID List**	**Role**	**Negotiation**
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
RF Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.1.2.1 Export SOP Specific Conformance – XA/RF/SC Image Storage

Export AE operation involves the following sequence of steps for each image transfer.

(1) Association establishment (requestor only)

(2) Data transfer (SCU only)

(3) Association release (requestor only)

Export AE judges that the transfer of one image succeeded when the result of (2) "Data transfer" is "Success" even if the result of (3) "Association release" is "Failure".

XA Information object Definition is described in chapter 8.

XRF Information object Definition is described in chapter 9.

SC Information object Definition is described in chapter 10.

3.1.2.2 Export Real-World Activity - Verification

3.1.2.2.1 Export Associated Real-World Activity - Verification

Verification is executed by the Digital Radiography System after the operator selects a destination.

3.1.2.2.2 Export Proposed Presentation Contexts - Verification

Export AE proposes the following Presentation Contexts shown below:

Table 5

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**			**Extended**
Name	**UID**	**Name List**	**UID List**	**Role**	**Negotiation**
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.3 Export Real-World Activity - Print

3.1.2.3.1 Export Associated Real-World Activity - Print

Export AE performs request of printing images automatically or manually to destination device.

3.1.2.3.2 Export Proposed Presentation Contexts - Print

Export AE proposes the following Presentation Contexts shown below:

Table 6

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**			**Extended**
Name	**UID**	**Name List**	**UID List**	**Role**	**Negotiation**
Basic Grayscale Print Management	1.2.840.10008.5.1.1.9	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.3.2.1 Export SOP Specific Conformance - Print

Export AE operation involves the following sequence of steps for each request print image.

(1) Association establishment (requestor only)

(2) Request of printing images (SCU only)

(3) Association release (requestor only)

Export AE judges that the request of printing images succeeded when the result of (2) "Request print images" is "Success" even if the result of (3) "Association release" is "Failure".

SOP Specific Conformance Statement is described in 9 DIMSE-Service and Attributes.

See Chapter 9, DIMSE-Service and Attributes.

3.1.2.4 Export Real-World Activity - MWM

3.1.2.4.1 Export Associated Real-World Activity - MWM

Export AE performs query and retrieve patient list automatically or manually from destination device.

3.1.2.4.2 Export Proposed Presentation Contexts - MWM

Export AE proposes the following Presentation Contexts shown below:

Table 7

Presentation Context Table

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	**UID**	**Name List**	**UID List**		
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.4.2.1 Export SOP Specific Conformance - MWM

Export AE operation involves the following sequence of steps for each query and retrieve patient list.

(1) Association establishment (requestor only)

(2) Query and retrieve patient list (SCU only)

(3) Association release (requestor only)

Export AE judges that the request of worklist succeeded when the result of (2) "Query and retrieve patient list" is "Success" even if the result of (3) "Association release" is "Failure".

Modality Worklist Information Object Definition is described in chapter 12.

3.1.2.5 Export Real-World Activity - MPPS

3.1.2.5.1 Export Associated Real-World Activity - MPPS

Export AE performs send MPPS automatically or manually to destination device.

3.1.2.5.2 Export Proposed Presentation Contexts - MPPS

Export AE proposes the following Presentation Contexts shown below:

Table 8

Presentation Context Table

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	**UID**	**Name List**	**UID List**		
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.5.2.1 Export SOP Specific Conformance - MPPS

Export AE operation involves the following sequence of steps for each request MPPS.

(1) Association establishment (requestor only)

(2) Send MPPS (SCU only)

(3) Association release (requestor only)

Export AE judges that the send of MPPS succeeded when the result of (2) "Send MPPS" is "Success" even if the result of (3) "Association release" is "Failure".

MPPS Information Object Definition is described in chapter 13.

3.1.3 Export Association Acceptance Policy

Export AE does not accept any associations generated by remote applications.

4. Communication Profiles

4.1 Supported Communication Stacks

This product provides DICOM TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.2 OSI Stack

Not applicable to this product.

4.3 TCP/IP Stack

This product inherits its TCP/IP stack from the computer system upon which it executes.

4.3.1 API

Not applicable to this product.

4.3.2 Physical Media Support

This product is indifferent to the physical medium over which TCP/IP executes; it inherits the medium from the computer system upon which it executes.

4.4 Point-to-Point Stack

Not applicable to this product.

5. Extensions/Specializations/Privatizations

Not applicable to this product.

6. Configuration

For the Digital Radiography System, the configuration can be set using the Online Setup interface.

Note: Settings and changes are performed by Toshiba Service Personnel at the time of installation of the Digital Radiography System.

6.1 AE Title/Presentation Address Mapping

Mapping from the AE titles to the presentation address is as follows:

- One port number and one AE title can be described for one host name
- Each AE title is mapped to one port number

6.2 Configurable Parameters

6.2.1 Time-out Value, Retry Count, Retry Interval

The time-out value, retry count, and retry interval in each status are shown below:

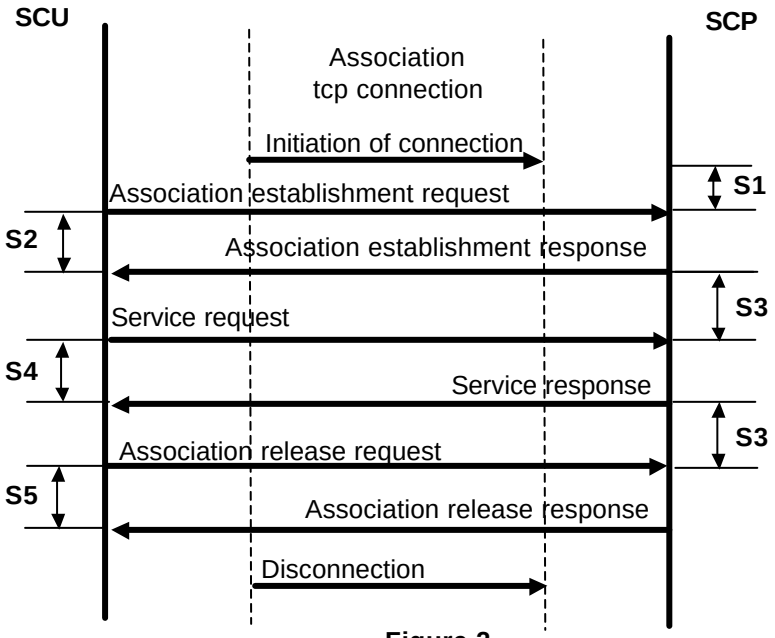

Figure 2

Table 9

Item	Status	Time-out Value	Retry Count	Retry Interval	Remarks
S1	Association establishment request waiting time	Not set	Not set	Not set	Not applicable to this product.
S2	Association establishment response waiting time	default: 15 seconds range: default only	Not set	Not set	Only one parameter can be set in the Digital Radiography System.
S3	Service request waiting time	Not set	Not set	Not set	Not applicable to this product.
S4	Service response waiting time	default: 60 seconds range: 15 to 300	Not set	Not set	Only one parameter can be set in the Digital Radiography System.
S5	Association release waiting time	default: 15 seconds range: default only	Not set	Not set	Only one parameter can be set in the Digital Radiography System.

6.3 Warning Status Criteria

6.3.1 XA/RF/SC Image Storage

6.3.1.1 C-STORE response

If SUCCESS is set, the Digital Radiography System judges that the image transfer succeeded.

If FAIL is set, the Digital Radiography System judges that the image transfer failed.

Table 10

Warning Response Item	Default Value	Parameter setting range
Coercion of Data Set	FAIL	Not Change
Data Set does not match SOP Class	FAIL	Not Change
Element discard	FAIL	Not Change

6.3.2 Basic Grayscale Print Management

6.3.2.1 Basic Film Session SOP Class

6.3.2.1.1 N-CREATE response

If SUCCESS is set, the Digital Radiography System judges that N-CREATE request succeeded.

If FAIL is set, the Digital Radiography System judges that N-CREATE request failed.

Table 11

Warning response	Default Value	Parameter setting range
Memory allocation not supported	FAIL	Not Change

6.3.2.2 Basic Film Box SOP Class

6.3.2.2.1 N-CREATE response

If SUCCESS is set, the Digital Radiography System judges that N-CREATE request succeeded.

If FAIL is set, the Digital Radiography System judges that N-CREATE request failed.

Table 12

Warning response	Default Value	Parameter setting range
Requested Min Density or Max Density outside of printer's operating range. The printer will use its respective minimum or maximum density value instead.	FAIL	Not Change

6.3.2.2.2 N-ACTION response

If SUCCESS is set, the Digital Radiography System judges that N-ACTION request succeeded.

If FAIL is set, the Digital Radiography System judges that N-ACTION request failed.

Table 13

Warning response	Default Value	Parameter setting range
Film Box SOP Instance hierarchy does not contain Image Box SOP Instances(empty page)	FAIL	Not Change
Image size is larger than image box size, the image has been demagnified.	FAIL	Not Change

6.3.2.3 Basic Grayscale Image Box SOP Class

6.3.2.3.1 N-SET response

If SUCCESS is set, the Digital Radiography System judges that N-SET request succeeded.

If FAIL is set, the Digital Radiography System judges that N-SET request failed.

Table 14

Warning response	Default Value	Parameter setting range
Image size is larger than image box size, the image has been demagnified.	FAIL	Not Change
Requested Min Density or Max Density outside of printer's operating range. The printer will use its respective minimum or maximum density value instead.	FAIL	Not Change

6.3.2.4 Printer SOP Class

6.3.2.4.1 N-GET response

If SUCCESS is set, the Digital Radiography System judges that N-GET request succeeded.

If FAIL is set, the Digital Radiography System judges that N-GET request failed.

Table 15

Warning response	Default Value	Parameter setting range
Attribute list error	FAIL	Not Change

6.4 Implementation Information and Maximum Reception PDU Size

The default values for the Digital Radiography System are used for the Implementation Class UID, the Implementation Version name, and the Maximum length received. They cannot be changed.

Table 16

Parameter	Default
Implementation Class UID	2.16.840.1.113669.632.3.1.1.2.7
Implementation Version name	ADR_2_9
Maximum length received(unit: byte)	0x4000

7. Support of Extended Character Sets

This product supports the following character sets:

Table 17

● ISO-IR 6 (default)	ISO646
● ISO-IR 87(Japanese)	JIS X 0208(Kanji)

Note: MWM supports only ISO-IR 6 character set as Matching key.

8. X-Ray Angiographic Information Object Definition

8.1 Entity Module Definitions

The information modules for the Digital Radiography System are defined below.

8.1.1 XA IOD Modules

Table 18

Information Entity	Module	Reference	Usage[1]
Patient	Patient Module	8.2.1	M
Study	General Study Module	8.2.2	M
Study	Patient Study Module	Not Used	U
Series	General Series Module	8.2.3	M
Equipment	General Equipment Module	8.2.4	M
Image	General Image Module	8.2.5	M
Image	Image Pixel Module	8.2.6	M
Image	Contrast/bolus Module	Not Used	C
Image	Cine Module	Not Used	C
Image	Multi-frame Module	Not Used	C
Image	Frame Pointers Module	Not Used	U
Image	Mask Module	Not Used	C
Image	Display Shutter Module	Not Used	U
Image	Device Module	Not Used	U
Image	Therapy Module	Not Used	U
Image	X-ray Image Module	8.2.7	M
Image	X-ray Acquisition Module	8.2.8	M
Image	X-ray Collimator Module	Not Used	U
Image	X-ray Table Module	Not Used	C
Image	XA Positioner Module	8.2.9	M
Image	Overlay Plane Module	Not Used	U
Image	Multi-Frame Overlay Module	Not Used	C
Image	Curve Module	Not Used	U
Image	Modality LUT Module	Not Used	C/U
Image	VOI LUT Module	8.2.10	U
Image	SOP Common Module	8.2.11	M

[1] M=Mandatory, C=Conditional, U=User option

8.2 Information Object Definitions

8.2.1 Patient Module

Table 19

Attribute Name	Tag	Type	Attribute Description
Patient's Name	(0010, 0010)	2	Always set except for urgent patient
Patient ID	(0010, 0020)	2	Always set
Patient's Birth Date	(0010, 0030)	2	Always set
Patient's Birth Time	(0010, 0032)	3	Always set , Length=0
Patient's Sex	(0010, 0040)	2	Always set
Patient Comments	(0010,4000)	3	Not set when no entry is made

8.2.2 General Study Module

Table 20

Attribute Name	Tag	Type	Attribute Description
Study Instance UID	(0020, 000D)	1	Always set
Study Date	(0008, 0020)	2	Always set
Study Time	(0008, 0030)	2	Always set
Referring Physician's Name	(0008, 0090)	2	Length=0 when no entry is made
Study ID	(0020, 0010)	2	Always set, Length=0
Accession Number	(0008, 0050)	2	Length=0 when no entry is made
Study Description	(0008, 1030)	3	Always set
Name of Physician(s) Reading Study	(0008, 1060)	3	Length=0 when no entry is made

8.2.3 General Series Module

Table 21

Attribute Name	Tag	Type	Attribute Description
Modality	(0008, 0060)	1	Always set ("XA")
Series Instance UID	(0020, 000E)	1	Always set
Series Number	(0020, 0011)	2	Always set
Series Date	(0008, 0021)	3	Always set
Series Time	(0008, 0031)	3	Always set
Performing Physician's Name	(0008, 1050)	3	Always set
Series Description	(0008,103E)	3	Length=0 when no entry is made
Body Part Examined	(0018,0015)	3	Always set, Length=0
Performed Procedure Step ID	(0040,0253)	3	Always set, Length=0
Performed Procedure Step Start Date	(0040,0244)	3	Always set, Length=0
Performed Procedure Start Time	(0040,0245)	3	Always set, Length=0

8.2.4 General Equipment Module

Table 22

Attribute Name	Tag	Type	Attribute Description
Manufacturer	(0008, 0070)	2	Always set
Institution Name	(0008, 0080)	3	Always set
Station Name	(0008, 1010)	3	Always set
Manufacture's Model Name	(0008, 1090)	3	Always set("ADR-1000A")
Device Serial Number	(0018, 1000)	3	Always set

8.2.5 General Image Module

Table 23

Attribute Name	Tag	Type	Attribute Description
Instance Number	(0020, 0013)	2	Always set
Patient Orientation	(0020, 0020)	2C	Always set, Length=0
Image Date	(0008, 0023)	2C	Always set
Image Time	(0008, 0033)	2C	Always set
Image Type	(0008, 0008)	3	Always set ("ORIGINAL\PRIMARY\SINGLE PLANE"/ "DERIVED\SECONDARY\SINGLE PLANE")
Image Comments	(0020, 4000)	3	Always set, Length=0

8.2.6 Image Pixel Module

Table 24

Attribute Name	Tag	Type	Attribute Description
Samples per Pixel	(0028, 0002)	1	Always set (0x0001)
Photometric Interpretation	(0028, 0004)	1	Always set ("MONOCHROME2")
Rows	(0028, 0010)	1	Always set (0x0400)
Columns	(0028, 0011)	1	Always set (0x0400/0x0500)
Bits Allocated	(0028, 0100)	1	Always set (0x0010/0x0008)
Bits Stored	(0028, 0101)	1	Always set (0x000A/0x0008)
High Bit	(0028, 0102)	1	Always set (0x0009/0x0007)
Pixel Representation	(0028, 0103)	1	Always set (0x0000)
Pixel Data	(7FE0, 0010)	1	Always set

8.2.7 X-ray Image Module

Table 25

Attribute Name	Tag	Type	Attribute Description
Image Type	(0008, 0008)	1	Always set ("ORIGINAL\PRIMARY\SINGLE PLANE"/ "DERIVED\SECONDARY\SINGLE PLANE")
Pixel Intensity Relationship	(0028, 1040)	1	Always set ("LOG")
Samples per Pixel	(0028, 0002)	1	Always set (0x0001)
Photometric Interpretation	(0028, 0004)	1	Always set ("MONOCHROME2")
Bits Allocated	(0028, 0100)	1	Always set (0x0010/0x0008)
Bits Stored	(0028, 0101)	1	Always set (0x000A/0x0008)
High Bit	(0028, 0102)	1	Always set (0x0009/0x0007)
Pixel Representation	(0028, 0103)	1	Always set (0x0000)

8.2.8 X-ray Acquisition Module

Table 26

Attribute Name	Tag	Type	Attribute Description
KVP	(0018, 0060)	2	Always set [kV]
Radiation Setting	(0018, 1155)	1	Always set
X-ray Tube Current	(0018, 1151)	2C	Always set [mA]
Exposure Time	(0018, 1150)	2C	Always set [msec]
Intensifier Size	(0018, 1162)	3	Always set[mm]

8.2.9 XA Positioner Module

Table 27

Attribute Name	Tag	Type	Attribute Description
Positioner Primary Angle	(0018, 1510)	2	Always set, Length=0
Positioner Secondary Angle	(0018, 1511)	2	Always set, Length=0

8.2.10 VOI LUT Module

Table 28

Attribute Name	Tag	Type	Attribute Description
Window Center	(0028, 1050)	3	Always set
Window Width	(0028, 1051)	1C	Always set

8.2.11 SOP Common Module

Table 29

Attribute Name	Tag	Type	Attribute Description
Specific Character Set	(0008, 0005)	1C	User selective (“\ISO 2022 IR 87”)
SOP Class UID	(0008, 0016)	1	Always set ("1.2.840.10008.5.1.4.1.1.12.1")
SOP Instance UID	(0008, 0018)	1	Always set

9. X-Ray Radiofluoroscopic Information Object Definition

9.1 Entity Module Definitions

The information modules for the Digital Radiography System are defined below.

9.1.1 XRF IOD Modules

Table 30

Information Entity	Module	Reference	Usage[1]
Patient	Patient Module	9.2.1	M
Study	General Study Module	9.2.2	M
Study	Patient Study Module	Not Used	U
Series	General Series Module	9.2.3	M
Equipment	General Equipment Module	9.2.4	M
Image	General Image Module	9.2.5	M
Image	Image Pixel Module	9.2.6	M
Image	Contrast/bolus Module	Not Used	C
Image	Cine Module	Not Used	C
Image	Multi-frame Module	Not Used	C
Image	Frame Pointers Module	Not Used	U
Image	Mask Module	Not Used	C
Image	X-ray Image Module	9.2.7	M
Image	X-ray Acquisition Module	9.2.8	M
Image	X-ray Collimator Module	Not Used	U
Image	Display Shutter Module	Not Used	U
Image	Therapy Module	Not Used	U
Image	Device Module	Not Used	U
Image	X-ray Table Module	Not Used	U
Image	XRF Positioner Module	Not Used	U
Image	X-Ray Tomo Acquisition Module	Not Used	C
Image	Overlay Plane Module	Not Used	U
Image	Multi-Frame Overlay Module	Not Used	C
Image	Curve Module	Not Used	U
Image	Modality LUT Module	Not Used	C/U
Image	VOI LUT Module	9.2.9	U
Image	SOP Common Module	9.2.10	M

[1] M=Mandatory, C=Conditional, U=User option

9.2 Information Object Definitions

9.2.1 Patient Module

Table 31

Attribute Name	Tag	Type	Attribute Description
Patient's Name	(0010, 0010)	2	Always set except for urgent patient
Patient ID	(0010, 0020)	2	Always set
Patient's Birth Date	(0010, 0030)	2	Always set
Patient's Birth Time	(0010, 0032)	3	Always set , Length=0
Patient's Sex	(0010, 0040)	2	Always set
Patient Comments	(0010,4000)	3	Length=0 when no entry is made

9.2.2 General Study Module

Table 32

Attribute Name	Tag	Type	Attribute Description
Study Instance UID	(0020, 000D)	1	Always set
Study Date	(0008, 0020)	2	Always set
Study Time	(0008, 0030)	2	Always set
Referring Physician's Name	(0008, 0090)	2	Length=0 when no entry is made
Study ID	(0020, 0010)	2	Always set
Accession Number	(0008, 0050)	2	Length=0 when no entry is made
Study Description	(0008, 1030)	3	Always set
Name of Physician(s) Reading Study	(0008, 1060)	3	Length=0 when no entry is made

9.2.3 General Series Module

Table 33

Attribute Name	Tag	Type	Attribute Description
Modality	(0008, 0060)	1	Always set ("RF")
Series Instance UID	(0020, 000E)	1	Always set
Series Number	(0020, 0011)	2	Always set, Length=0
Series Date	(0008, 0021)	3	Always set
Series Time	(0008, 0031)	3	Always set
Performing Physician's Name	(0008, 1050)	3	Always set, Length=0
Series Description	(0008,103E)	3	Length=0 when no entry is made
Body Part Examined	(0018,0015)	3	Always set, Length=0
Performed Procedure Step ID	(0040,0253)	3	Always set, Length=0
Performed Procedure Step Start Date	(0040,0244)	3	Always set, Length=0
Performed Procedure Start Time	(0040,0245)	3	Always set, Length=0

9.2.4 General Equipment Module

Table 34

Attribute Name	Tag	Type	Attribute Description
Manufacturer	(0008, 0070)	2	Always set
Institution Name	(0008, 0080)	3	Always set
Station Name	(0008, 1010)	3	Always set
Manufacture's Model Name	(0008, 1090)	3	Always set("ADR-1000A")
Device Serial Number	(0018, 1000)	3	Always set

9.2.5 General Image Module

Table 35

Attribute Name	Tag	Type	Attribute Description
Instance Number	(0020, 0013)	2	Always set
Patient Orientation	(0020, 0020)	2C	Always set, Length=0
Image Date	(0008, 0023)	2C	Always set
Image Time	(0008, 0033)	2C	Always set
Image Type	(0008, 0008)	3	Always set ("ORIGINAL\PRIMARY\SINGLE PLANE"/ "DERIVED\SECONDARY\SINGLE PLANE")
Image Comments	(0020, 4000)	3	Always set, Length=0

9.2.6 Image Pixel Module

Table 36

Attribute Name	Tag	Type	Attribute Description
Samples per Pixel	(0028, 0002)	1	Always set (0x0001)
Photometric Interpretation	(0028, 0004)	1	Always set ("MONOCHROME2")
Rows	(0028, 0010)	1	Always set (0x0400)
Columns	(0028, 0011)	1	Always set (0x0400/0x0500)
Bits Allocated	(0028, 0100)	1	Always set (0x0010/0x0008)
Bits Stored	(0028, 0101)	1	Always set (0x000A/0x0008)
High Bit	(0028, 0102)	1	Always set (0x0009/0x0007)
Pixel Representation	(0028, 0103)	1	Always set (0x0000)
Pixel Data	(7FE0, 0010)	1	Always set

9.2.7 X-ray Image Module

Table 37

Attribute Name	Tag	Type	Attribute Description
Image Type	(0008, 0008)	1	Always set ("ORIGINAL\PRIMARY\SINGLE PLANE"/ "DERIVED\SECONDARY\SINGLE PLANE")
Samples per Pixel	(0028, 0002)	1	Always set (0x0001)
Photometric Interpretation	(0028, 0004)	1	Always set ("MONOCHROME2")
Bits Allocated	(0028, 0100)	1	Always set (0x0010/0x0008)
Bits Stored	(0028, 0101)	1	Always set (0x000A/0x0008)
High Bit	(0028, 0102)	1	Always set (0x0009/0x0007)
Pixel Representation	(0028, 0103)	1	Always set (0x0000)

9.2.8 X-ray Acquisition Module

Table 38

Attribute Name	Tag	Type	Attribute Description
KVP	(0018, 0060)	2	Always set [kV]
Radiation Setting	(0018, 1155)	1	Always set
X-ray Tube Current	(0018, 1151)	2C	Always set [mA]
Exposure Time	(0018, 1150)	2C	Always set [msec]
Intensifier Size	(0018, 1162)	3	Always set[mm]

9.2.9 VOI LUT Module

Table 39

Attribute Name	Tag	Type	Attribute Description
Window Center	(0028, 1050)	3	Always set
Window Width	(0028, 1051)	1C	Always set

9.2.10 SOP Common Module

Table 40

Attribute Name	Tag	Type	Attribute Description
Specific Character Set	(0008, 0005)	1C	User selective ("\ISO 2022 IR 87")
SOP Class UID	(0008, 0016)	1	Always set ("1.2.840.10008.5.1.4.1.1.12.2")
SOP Instance UID	(0008, 0018)	1	Always set

10. SC Information Object Definition

10.1 Entity Module Definitions

The information modules for the Digital Radiography System are defined below.

10.1.1 SC IOD Modules

Table 41

Information Entity	Module	Reference	Usage[1]
Patient	Patient Module	10.2.1	M
Study	General Study Module	10.2.2	M
Study	Patient Study Module	Not Used	U
Series	General Series Module	10.2.3	M
Equipment	General Equipment Module	10.2.4	U
Equipment	SC Equipment Module	10.2.5	M
Image	General Image Module	10.2.6	M
Image	Image Pixel Module	10.2.7	M
Image	SC Image Module	10.2.8	M
Image	Overlay Plane Module	Not Used	U
Image	Modality LUT Module	Not Used	U
Image	VOI LUT Module	10.2.9	U
Image	SOP Common Module	10.2.10	M

[1] M=Mandatory, C=Conditional, U=User option

10.2 Information Object Definitions

10.2.1 Patient Module

Table 42

Attribute Name	Tag	Type	Attribute Description
Patient's Name	(0010, 0010)	2	Always set except for urgent patient
Patient ID	(0010, 0020)	2	Always set
Patient's Birth Date	(0010, 0030)	2	Always set
Patient's Birth Time	(0010, 0032)	3	Always set , Length=0
Patient's Sex	(0010, 0040)	2	Always set
Patient Comments	(0010,4000)	3	Length=0 when no entry is made

10.2.2 General Study Module

Table 43

Attribute Name	Tag	Type	Attribute Description
Study Instance UID	(0020, 000D)	1	Always set
Study Date	(0008, 0020)	2	Always set
Study Time	(0008, 0030)	2	Always set
Referring Physician's Name	(0008, 0090)	2	Always set, Length=0
Study ID	(0020, 0010)	2	Always set, Length=0
Accession Number	(0008, 0050)	2	Length=0 when no entry is made
Study Description	(0008, 1030)	3	Always set
Name of Physician(s) Reading Study	(0008, 1060)	3	Length=0 when no entry is made

10.2.3 General Series Module

Table 44

Attribute Name	Tag	Type	Attribute Description
Modality	(0008, 0060)	1	Always set ("XA"/"RF"/"OT")
Series Instance UID	(0020, 000E)	1	Always set
Series Number	(0020, 0011)	2	Always set, Length=0
Series Date	(0008, 0021)	3	Always set
Series Time	(0008, 0031)	3	Always set
Performing Physician's Name	(0008, 1050)	3	Always set, Length=0
Series Description	(0008,103E)	3	Length=0 when no entry is made
Body Part Examined	(0018,0015)	3	Always set, Length=0
Performed Procedure Step ID	(0040,0253)	3	Always set, Length=0
Performed Procedure Step Start Date	(0040,0244)	3	Always set, Length=0
Performed Procedure Start Time	(0040,0245)	3	Always set, Length=0

10.2.4 General Equipment Module

Table 45

Attribute Name	Tag	Type	Attribute Description
Manufacturer	(0008, 0070)	2	Always set
Institution Name	(0008, 0080)	3	Always set
Station Name	(0008, 1010)	3	Always set
Manufacture's Model Name	(0008, 1090)	3	Always set("ADR-1000A")
Device Serial Number	(0018, 1000)	3	Always set

10.2.5 SC Equipment Module

Table 46

Attribute Name	Tag	Type	Attribute Description
Conversion Type	(0008, 0064)	1	Always set ("DI")
Modality	(0008, 0060)	3	Always set("XA"/"RF"/"OT")

10.2.6 General Image Module

Table 47

Attribute Name	Tag	Type	Attribute Description
Instance Number	(0020, 0013)	2	Always set
Patient Orientation	(0020, 0020)	2C	Always set, Length=0
Image Date	(0008, 0023)	2C	Always set
Image Time	(0008, 0033)	2C	Always set
Image Type	(0008, 0008)	3	Always set ("DERIVED\SECONDARY\SINGLE PLANE")
Image Comments	(0020, 4000)	3	Always set, Length=0

10.2.7 Image Pixel Module

Table 48

Attribute Name	Tag	Type	Attribute Description
Samples per Pixel	(0028, 0002)	1	Always set (0x0001)
Photometric Interpretation	(0028, 0004)	1	Always set ("MONOCHROME2")
Rows	(0028, 0010)	1	Always set (0x0400)
Columns	(0028, 0011)	1	Always set (0x0400/0x0500)
Bits Allocated	(0028, 0100)	1	Always set (0x0010/0x0008)
Bits Stored	(0028, 0101)	1	Always set (0x000A/0x0008)
High Bit	(0028, 0102)	1	Always set (0x0009/0x0007)
Pixel Representation	(0028, 0103)	1	Always set (0x0000)
Pixel Data	(7FE0, 0010)	1	Always set

10.2.8 SC Image Module

Table 49

Attribute Name	Tag	Type	Attribute Description
Date of Secondary Capture	(0018, 1012)	1	Always set
Time of Secondary Capture	(0028, 1014)	1	Always set

10.2.9 VOI LUT Module

Table 50

Attribute Name	Tag	Type	Attribute Description
Window Center	(0028, 1050)	3	Always set
Window Width	(0028, 1051)	1C	Always set

10.2.10 SOP Common Module

Table 51

Attribute Name	Tag	Type	Attribute Description
Specific Character Set	(0008, 0005)	1C	User selective (“\ISO 2022 IR 87”)
SOP Class UID	(0008, 0016)	1	Always set (“1.2.840.10008.5.1.4.1.1.7”)
SOP Instance UID	(0008, 0018)	1	Always set

11. DIMSE-Service and Attributes

11.1 DIMSE-Services

Table 52

SOP Class	DIMSE Service Element	Reference	Usage SCU *1
Basic Film Session SOP Class	N-CREATE	11.2.1	M
	N-SET	Not used	U
	N-DELETE	Not used	U
	N-ACTION	Not used	U
Basic Film Box SOP Class	N-CREATE	11.3.1	M
	N-SET	Not used	U
	N-DELETE	Not used	U
	N-ACTION	Used	M
Basic Grayscale Image Box SOP Class	N-SET	11.4.1	M
Printer SOP Class	N-EVENT-REPORT	11.5.1	M
	N-GET	11.5.2	U

*1 : M = Mandatory, U = User option

11.2 Basic Film Session SOP Class

11.2.1 N-CREATE Attributes

Table 53

Attribute Name	Tag	Usage	Attribute Description
Number of Copies	(2000,0010)	U	Always set ("1" - "99")
Print Priority	(2000,0020)	U	Always set
Media Type	(2000,0030)	U	Always set ("PAPER"/"CLEAR FILM"/ "BLUE FILM")
Film Destination	(2000,0040)	U	Always set ("PROCESSOR")
Film Session Label	(2000,0050)	U	Not set

11.3 Basic Film Box SOP Class

11.3.1 N-CREATE Attributes

Table 54

Attribute Name	Tag	Usage	Attribute Description
Image Display Format	(2010,0010)	M	Always set
Film Orientation	(2010,0040)	U	Always set
Film Size ID	(2010,0050)	U	Always set
Magnification Type	(2010,0060)	U	Always set
Border Density	(2010,0100)	U	Always set
Empty Image Density	(2010,0110)	U	Always set
Trim	(2010,0140)	U	Always set
Referenced Film Session Sequence	(2010,0500)	M	Always set
>Referenced SOP Class UID	(0008,1150)	M	Always set
>Referenced SOP Instance UID	(0008,1155)	M	Always set

11.4 Basic Grayscale Image Box SOP Class

11.4.1 N-SET Attributes

Table 55

Attribute Name	Tag	Usage	Attribute Description
Image Position	(2020,0010)	M	Always set
Polarity	(2020,0020)	U	Always set
Magnification Type	(2010,0060)	U	Always set
Basic Grayscale Image Sequence	(2020,0110)	M	Always set
>Samples Per Pixel	(0028,0002)	M	Always set (0x0001)
>Photometric Interpretation	(0028,0004)	M	Always set ("MONOCHROME2")
>Rows	(0028,0010)	M	Always set (0x0400)
>Columns	(0028,0011)	M	Always set (0x0500)
>Pixel Aspect Ratio	(0028,0034)	MC	Always set
>Bits Allocated	(0028,0100)	M	Always set (0x0008)
>Bits Stored	(0028,0101)	M	Always set (0x0008)
>High Bit	(0028,0102)	M	Always set (0x0007)
>Pixel Representation	(0028,0103)	M	Always set (0x0000)
>Pixel Data	(7FE0,0010)	M	Always set

11.5 Printer SOP Class

11.5.1 N-EVENT-REPORT

Table 56

Event Type Name	Event Type ID	Attribute	Tag	Usage SCU/SCP
NORMAL	1			
WARNING	2	Printer Name	(2110,0030)	U/U
		Printer Status Information	(2110,0020)	U/M
FAILURE	3	Printer Name	(2110,0030)	U/U
		Printer Status Information	(2110,0020)	U/M

11.5.2 N-GET Attributes

Table 57

Attribute Name	Tag	Usage SCU/SCP
Printer Status	(2110,0010)	U/M
Printer Status Information	(2110,0020)	U/M
Printer Name	(2110,0030)	U/U
Manufacturer	(0008,0070)	U/U
Manufacturer's Model Name	(0008,1090)	U/U
Device Serial Number	(0018,1000)	U/U
Software Version	(0018,1020)	U/U
Date of Last Calibration	(0018,1200)	U/U
Time of Last Calibration	(0018,1201)	U/U

12. Modality Worklist Information Object Definition

12.1 Matching Key Attributes

The supported Matching Key Attributes are listed as follows.

12.1.1 Scheduled Procedure Step Module

Table 58

Description/Module	Tag	Matching Key Type	Remark/ Matching Type
Scheduled Procedure Step Sequence	(0040, 0100)	R	
>Scheduled station AE title	(0040, 0001)	R	Single Value Matching
>Scheduled Procedure Step Start Date	(0040, 0002)	R	Single Value Matching or Range Matching
>Scheduled Procedure Step Start Time	(0040, 0003)	R	Single Value Matching or Range Matching
>Modality	(0008, 0060)	R	Single Value Matching Always set (“XA”/”RF”)

12.2 Return Key Attributes

The supported Return Key Attributes are listed as follows.

12.2.1 Patient Identification Module

Table 59

Description/Module	Tag	Return Key Type	Remark
Patient’s Name	(0010,0010)	1	
Patient ID	(0010,0020)	1	

12.2.2 Patient Demographic Module

Table 60

Description/Module	Tag	Return Key Type	Remark
Patient’s Birth Date	(0010,0030)	2	
Patient’s Sex	(0010,0040)	2	
Patient Comments	(0010,4000)	3	

12.2.3 Imaging Service Request Module

Table 61

Description/Module	Tag	Return Key Type	Remark
Accession Number	(0008,0050)	2	
Referring Physician's Name	(0008,0090)	2	

12.2.4 Scheduled Procedure Step Module

Table 62

Description/Module	Tag	Return Key Type	Remark
Scheduled Procedure Step Sequence	(0040, 0100)	1	
>Scheduled station AE title	(0040, 0001)	1	
>Scheduled Procedure Step Start Date	(0040, 0002)	1	
>Scheduled Procedure Step Start Time	(0040, 0003)	1	
>Modality	(0008, 0060)	1	
>Scheduled Performing Physician's Name	(0040,0006)	2	

13. Modality Performed Procedure Step Information Object Definition

13.1 N-CREATE Attributes

13.1.1 Performed Procedure Step Relationship Module

Table 63

Attribute Name	Tag	Req. Type N-CREATE	Attributes Description
Scheduled Step Attributes Sequence	(0040,0270)	1	Always set
>Study Instance UID	(0020,000D)	1	Always set
>Referenced Study Sequence	(0008,1110)	2	Always set, Length=0
>Accession Number	(0008,0050)	2	Always set
>Requested Procedure ID	(0040,1001)	2	Always set, Length=0
>Requested Procedure Description	(0032,1060)	2	Always set, Length=0
>Scheduled Procedure Step ID	(0040,0009)	2	Always set, Length=0
>Scheduled Procedure Step Description	(0040,0007)	2	Always set, Length=0
>Scheduled Action Item Code Sequence	(0040,0008)	2	Always set, Length=0
Patient's Name	(0010,0010)	2	Always set
Patient ID	(0010,0020)	2	Always set
Patient's Birth Date	(0010,0032)	2	Always set
Patient's Sex	(0010,0040)	2	Always set
Referenced Patient Sequence	(0008,1120)	2	Always set, Length=0

13.1.2 Performed Procedure Step Information Module

Table 64

Attribute Name	Tag	Req. Type N-CREATE	Attributes Description
Performed Procedure Step ID	(0040,0253)	1	Always set
Performed Station AE Title	(0040,0241)	1	Always set
Performed Station Name	(0040,0242)	2	Always set, Length=0
Performed Location	(0040,0243)	2	Always set, Length=0
Performed Procedure Step Start Date	(0040,0244)	1	Always set
Performed Procedure Step Time	(0040,0245)	1	Always set
Performed Procedure Step Status	(0040,0252)	1	Always set (“IN PROGRESS”)
Performed Procedure Step Description	(0040,0254)	2	Always set, Length=0
Performed Procedure Type Description	(0040,0255)	2	Always set
Procedure Code Sequence	(0008,1032)	2	Always set, Length=0
Performed Procedure Step End Date	(0040,0250)	2	Always set
Performed Procedure Step End Time	(0040,0251)	2	Always set

13.1.3 Image Acquisition Results Module

Table 65

Attribute Name	Tag	Req. Type N-CREATE	Attributes Description
Modality	(0008,0060)	1	Always set ("XA"/"RF")
Study ID	(0020,0010)	2	Always set
Performed Action Item Code Sequence	(0040,0260)	2	Always set, Length=0
Performed Series Sequence	(0008, 0340)	2	Always set
>Performing Physician's Name	(0008, 1050)	2C	Length=0, when no entry is made
>Protocol Name	(0018, 1030)	1C	Always set
>Operator's Name	(0008, 1070)	2C	Length=0, when no entry is made
>Series Instance UID	(0020, 000E)	1C	Always set
>Series Description	(0008, 103E)	2C	Length=0, when no entry is made
>Retrieve AE Title	(0008, 0054)	2C	Always set, Length=0
>Referenced Image Sequence	(0008, 1140)	2C	Always set
>>Referenced SOP Class UID	(0008, 1150)	1C	Always set
>>Referenced SOP Instance UID	(0008, 1155)	1C	Always set
>Referenced Standalone SOP instance Sequence	(0040, 0220)	2C	Always set, length=0

13.2 N-SET Attributes

13.2.1 Performed Procedure Step Information Module

Table 66

Attribute Name	Tag	Req. Type N-SET(*1)	Attributes Description
Performed Procedure Step Status	(0040,0252)	3	Always set ("COMPLETED")
Performed Procedure Step Description	(0040,0254)	3	Always set, Length=0
Performed Procedure Type Description	(0040,0255)	3	Always set
Performed Procedure Step End Date	(0040,0250)	3 (1)	Always set
Performed Procedure Step End Time	(0040,0251)	3 (1)	Always set
Procedure Code Sequence	(0008,1032)	3	Always set, Length=0

*1) Requirement Type Final State

13.2.2 Image Acquisition Results Module

Table 67

Attribute Name	Tag	Req. Type N-SET(*1)	Attributes Description
Performed Series Sequence	(0008, 0340)	3 (1)	Always set
>Performing Physician's Name	(0008, 1050)	2C (2)	Length=0, when no entry is made
> Protocol Name	(0018,1030)	1C (1)	Always set
>Operator's Name	(0008, 1070)	2C (2)	Length=0, when no entry is made
>Series Instance UID	(0020, 000E)	1C (1)	Always set
>Series Description	(0008,103E)	2C (2)	Length=0, when no entry is made
>Retrieve AE Title	(0008, 0054)	2C (2)	Always set, Length=0
>Referenced Image Sequence	(0008, 1140)	2C	Always set
>>Referenced SOP Class UID	(0008, 1150)	1C	Always set
>>Referenced SOP Instance UID	(0008, 1155)	1C	Always set
>Referenced Standalone SOP instance Sequence	(0040, 0220)	2C	Always set, length=0

*1) Requirement Type Final State

E